FINAL REPORT

Assessment of Geology, Energy, and Minerals (GEM) Resources

SOUTH FORK LITTLE HUMBOLDT GEM RESOURCE AREA

(NV--010-01)

ELKO COUNTY, NEVADA

Prepared for

United States Department of the Interior
United States Bureau of Land Management
Scientific Systems Development Branch

March 1983

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Prepared For:

United States Department of the Interior
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This report was prepared as part of a Phase I Assessment of GEM Resources within designated Wilderness Study Areas in Oregon, Idaho and Nevada.

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DISCLAIMER

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- Dr. Antonius Budding - Oil Shale and Tar Sands
- Mr. Raymond Corcoran - Field Verification
- Dr. James Firby - Paleontology
- Mr. Ralph Mason - Coal
- Mr. Richard Miller - Uranium and Thorium
- Mr. Vernon Newton - Oil and Gas
- Mr. Herbert Schlicker - Industrial Minerals and Geologic Hazards
- Dr. Walter Youngquist - Geothermal
- Dr. Paul Weis - Metals and Non - Metals.

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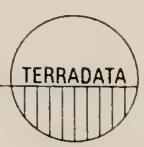


EXECUTIVE SUMMARY

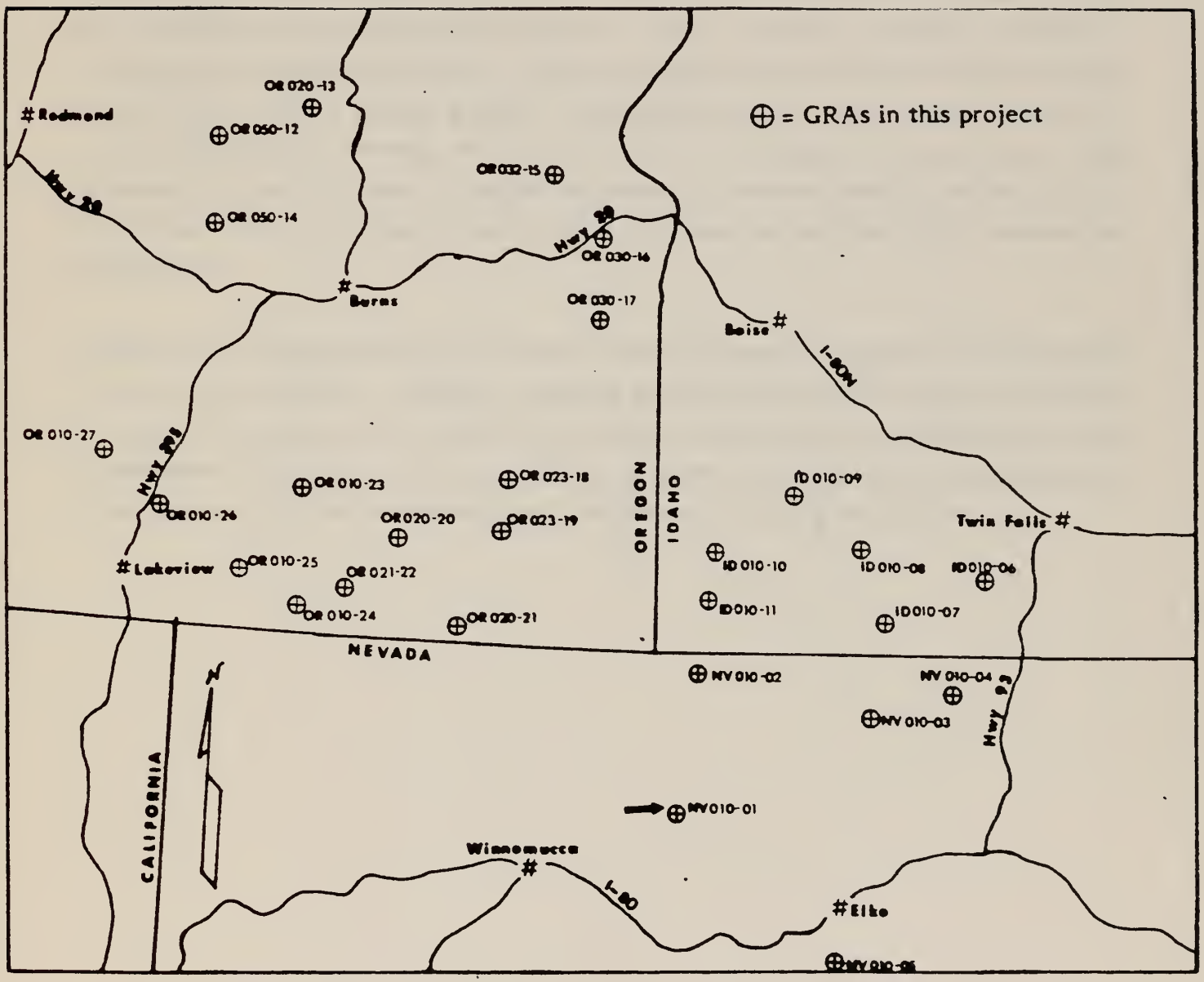
The purpose of this project is to evaluate and classify environments favorable for the occurrence of geology, energy, and minerals (GEM) resources in selected wilderness study areas (WSAs) in southeastern Oregon, southwestern Idaho, and northern Nevada. **(See the TERRADATA report entitled "Procedures for the Assessment of Geology, Energy, and Minerals (GEM) Resources.")** GEM resource environments have been rated on a scale that ranges from one to four, with one being least favorable and four being most favorable. Favorability classes two and three represent low and moderate favorability, respectively. Confidence levels range from A to D with A being low confidence and D being high confidence. The confidence levels are directly related to the quantity and quality of the information available for the determination of the favorability classes.

The specific area with which this report deals is the South Fork Little Humboldt GRA (GRA number NV-010-01) which is located in northeastern Nevada (see attached location map). The GRA contains about 270 square miles within Townships 39N and 41N and Ranges 45E and 47E. It contains one WSA; WSA 010-132 which comprises 41,213 acres. The study area is in the Elko Resource Area of the Elko BLM District. It is about forty miles northeast of Winnemucca, Nevada.

The GRA is within the Great Basin sub-province of the Basin and Range physiographic province. It contains rocks that range from Paleozoic eugeoclinal and miogeoclinal sediments to Tertiary and Quaternary sedimentary and volcanic strata. Major structural elements in the area are the Antler Orogenic Belt, the Lynn-Railroad mineral belt and Basin and Range fault blocks.

The South Fork Little Humboldt GRA contains one principal geologic environment that is moderately favorable for GEM resources. This environment occurs in three areas, labeled 1-3C, 2-3C and 3-4D on the attached Land Classification Map. This environment is favorable for the occurrence of gold and silver deposits. Two of the favorable areas are classified 3C, signifying that the geologic environment, the inferred geologic processes and the reported mineral occurrences indicate moderate favorability for the accumulation of gold and silver and that the available data provide direct evidence but are quantitatively minimal to support the possible existence of mineral resources. The third favorable area contains a known mining district and is highly favorable (4D).

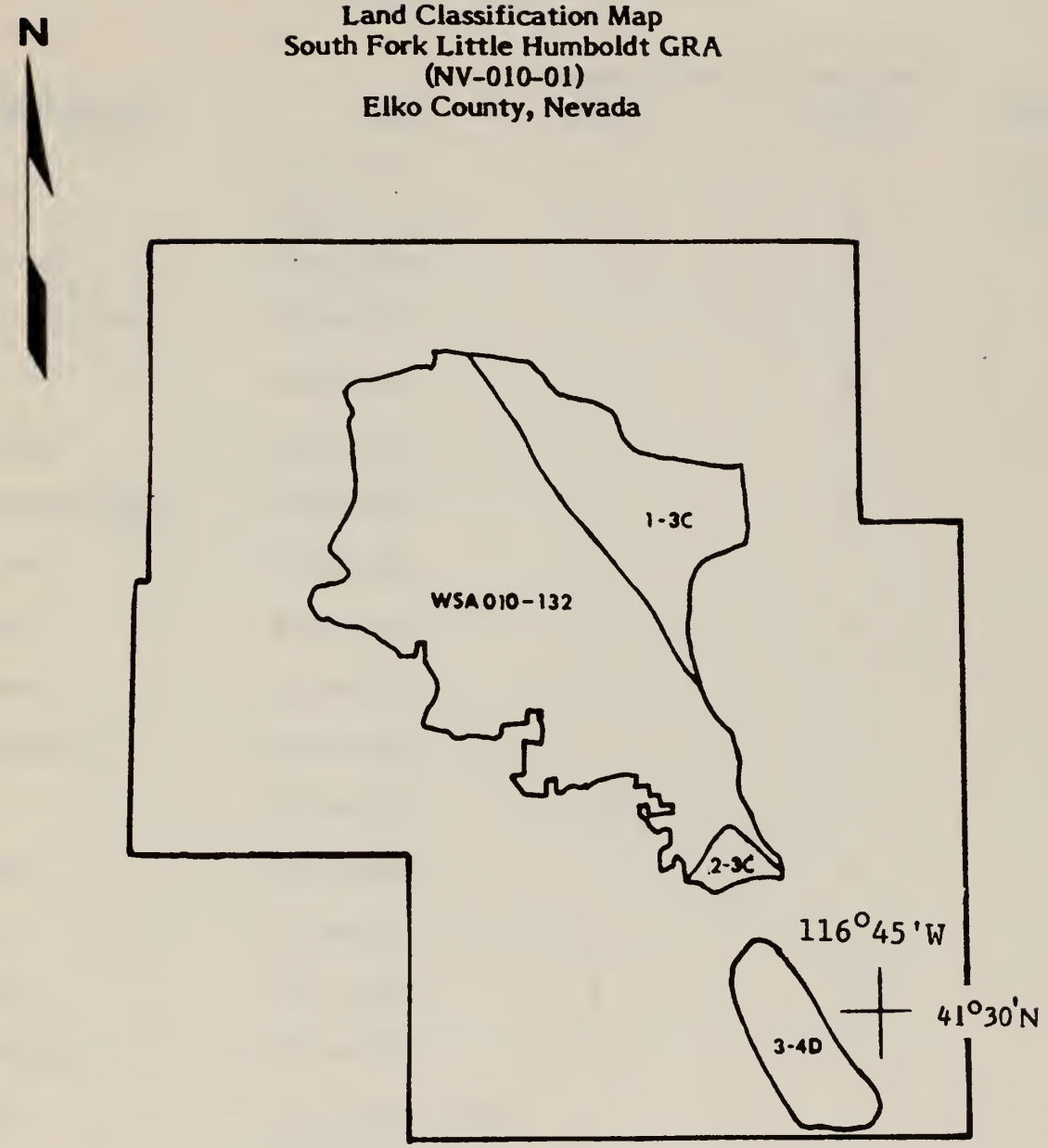
GRA Location Map



The classification of areas 1-3C and 2-3C is based on two important criteria. First, favorable areas contain a geologic environment similar to that in the Midas Mining District, which is located in area 3-D in the southern part of the GRA. In the Midas District this environment produced gold and silver from several mines in the late nineteenth and early twentieth centuries. Deposits in the Midas District consist of veins and silicified replacement bodies along the contact between a rhyolitic unit and a ferromagnesian-rich extrusive unit. Alteration types include intense silicification and hematization. Similar general geologic characteristics occur in the areas 1-3C and 2-3C within WSA 010-132, although the type and extent of alteration are not known. The remainder of the GRA does not exhibit the necessary favorable geologic characteristics. The entire GRA is favorable to only slightly favorable for all other GEM resources as shown below.

TERRADATA recommends that no further surface geologic investigation be undertaken in areas 1-3C and 2-3C. However, detailed geochemical sampling along the contact between the potential host units could produce results that might upgrade the land classification of this area. Selective drilling of geochemical anomalies would contribute to the refinement of the confidence level and favorability rating in this GRA.

Land Classification Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada



This map is an overlay for Figures 2-1 and 2-2. Subareas are discussed in the text.

Scale 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

Classification Of Lands Within The South Fork Little Humboldt GRA (NV - 010 - 01) Elko County, Nevada For G - E - M Resource Potential

COMMODITY	AREA	CLASSIFICATION LEVEL	CONFIDENCE LEVEL	REMARKS
Metals	1-3C, 2-3C	3	C	Au, Ag
	3-4D	4	D	Au, Ag
	Rest of GRA	1	B	
Geothermal	Entire GRA	1	B	
Uranium/Thorium	Entire GRA	1	A	
Coal	Entire GRA	2	B	
Oil and Gas	Entire GRA	1	A	
Tar Sands/Oil Shale	Entire GRA	1	C	
Limestone	Entire GRA	2	C	
Bentonite	Entire GRA	2	A	
Diatomite	Entire GRA	1	B	
Clinoptilolite	Entire GRA	1	A	
Barite	Entire GRA	1	A	
Turquoise	Entire GRA	2	A	
Perlite	Entire GRA	1	B	
Phosphate	Entire GRA	2	A	
Paleontology	Entire GRA	1	A	
Hazards	See Hazards Map (GRA FILE)			
ESLs	None	1	C	

LEGEND:
Class 1 - Least Favorable
Class 2 - Low Favorability
Class 3 - Moderate Favorability
Class 4 - High Favorability

Confidence Level A - Insufficient data or no direct evidence
Confidence Level B - Indirect evidence available
Confidence Level C - Direct evidence but quantitatively minimal
Confidence Level D - Abundant direct and indirect evidence

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1. INTRODUCTION

This report is one of 27 GRA technical reports that summarize the results of a Phase 1 assessment of the geology, energy, and minerals (GEM) resources in selected portions of southeastern Oregon, southwestern Idaho, and northern Nevada. The study region was subdivided into 27 GEM resource areas (GRAs), principally for ease of data management and interpretation. The assessment of GEM resources for this project consisted of an interpretation of existing literature and information by experts knowledgeable in both the geographic area and specific commodities. It is possible that the assessment would be different if detailed field exploration, geochemical sampling, and exploratory drilling programs were undertaken. (See the TERRADATA report entitled "Procedures for the Assessment of Geology, Energy, and Minerals (GEM) Resources.")

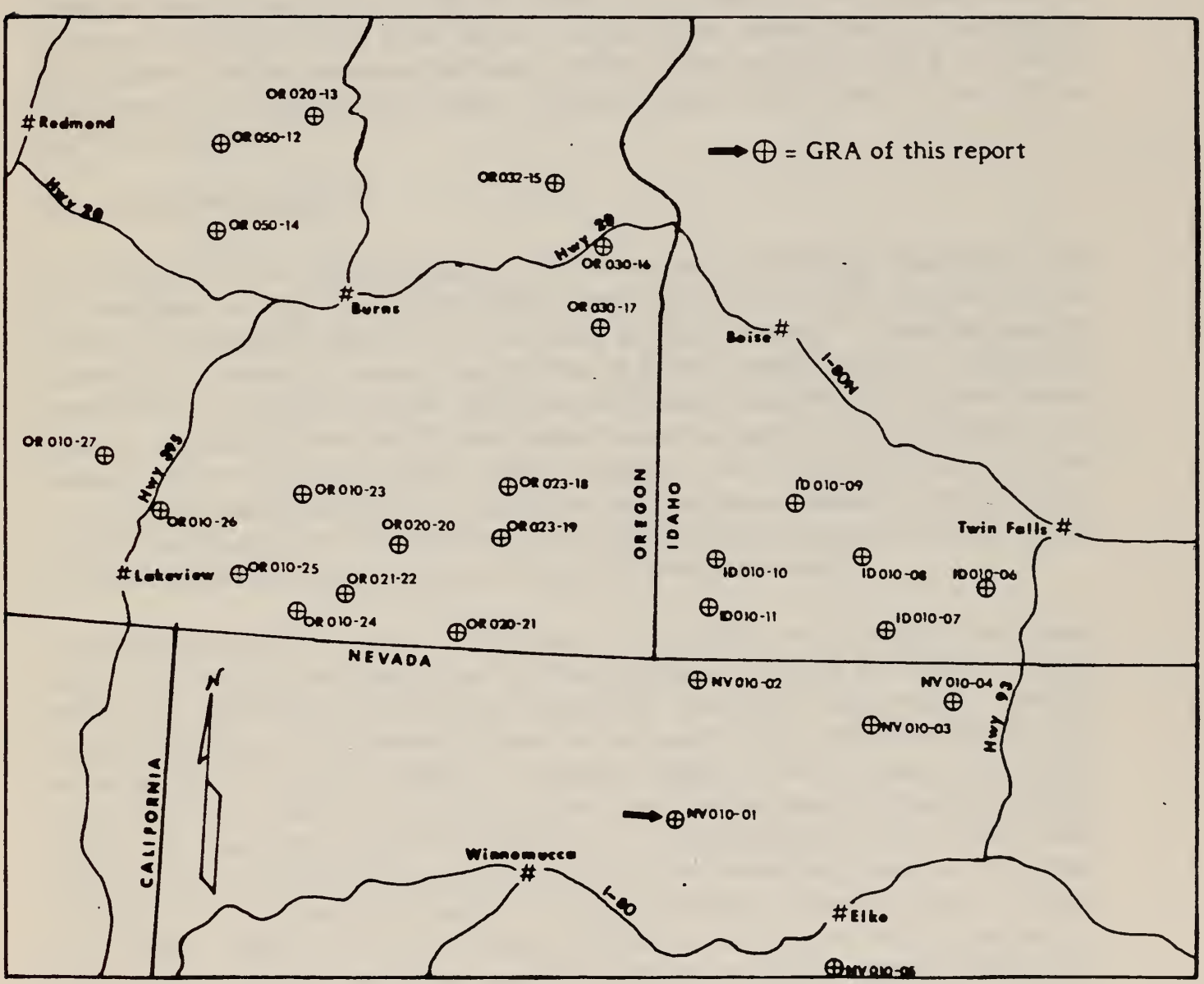
This report summarizes the assessment of the GEM resources potential of the South Fork Little Humboldt GRA (NV-010-01). See Figure 1-1. Commodity categories for which this GRA was evaluated are:

- Metals
- Oil and Gas
- Oil Shale and Tar Sands
- Geothermal
- Uranium and Thorium
- Coal
- Industrial Minerals
- Paleontological Resources
- Geologic Hazards
- Educational and Scientific Localities (ESLs)

Geologic environments within the South Fork Little Humboldt GRA have been rated with respect to their favorability for the occurrence of these different commodities. The favorability rating scale ranges from one to four, with one being least favorable and four being most favorable. Confidence levels in these ratings also have been assigned. These confidence levels range from A to D, with A being low confidence and D high confidence. Assigned confidence levels are related to the quantity and quality of the information available for the determination of the favorability ratings.

FIGURE 1-1

GRA Location Map



2. DESCRIPTION OF THE SOUTH FORK LITTLE HUMBOLDT GRA

2.1 LOCATION

The South Fork Little Humboldt GRA (NV-010-01) is in north-central Nevada. It lies between latitudes 41°10'N and 41°30'N and longitudes 116°42'W and 117°10'W. The GRA contains approximately 270 square miles within townships 39N and 41N and ranges 45E and 47E (see Figures 1-1 and 2-1). The area contains one Wilderness Study Area; WSA 010-132 (41,213 acres). The South Fork Little Humboldt GRA is in the Elko Resource Area of the Elko BLM District. The area is about 40 miles east-northeast of Winnemucca, Nevada, which is the nearest transportation center offering a minimum of rail, highway, and/or charter-air services. Access to the contained WSA is via county maintained dirt or packed-gravel roads. Vehicular access to the interior of the WSA is poor to non-existent.

2.2 GENERAL GEOLOGY

The South Fork Little Humboldt GRA is in the McDermitt 1°x2° NTMS Quadrangle. The data available for this area includes NURE investigations[1, 2, 3, 4]*, general mineral resource information[5], and limited small scale geologic mapping[2]. Detailed geologic information is lacking in most areas outside of known mining districts. Occurrence information for this GRA includes data from the United States Bureau of Mines Mineral Inventory Location System (MILS), the United States Geological Survey's Computerized Resource Information Base (CRIB), claims, and leases. The overall quantity and quality of commodity specific information is good for gold and silver, because of the proximity of the Midas Mining District to the GRA. The available information is poor to fair for all other commodities; most are not known to occur in or near the area.

The South Fork Little Humboldt GRA is within the northern section of the Great Basin portion of the Basin and Range physiographic province. The Basin and Range Province consists of generally north-trending fault-block mountains separated by parallel intermontane basins. The mountain blocks are commonly ten to twelve miles wide and are separated by alluviated valleys of comparable width. Elevation ranges from below sea level at Death Valley to more than 13,000 feet at White Mountains Boundary Peaks. Local relief generally is less that 5,000 feet. The physiography of the Great Basin reflects the structural and lithologic complexity of the underlying bedrock. The Great Basin portion of the Basin and Range Province extends from southern Nevada northward into southern Oregon. The northern-most extremity is located just north of the town of Burns, Oregon. Rocks in the area range from Paleozoic eugeoclinal-miogeoclinal suites to Tertiary volcanogenic and lacustrine strata.

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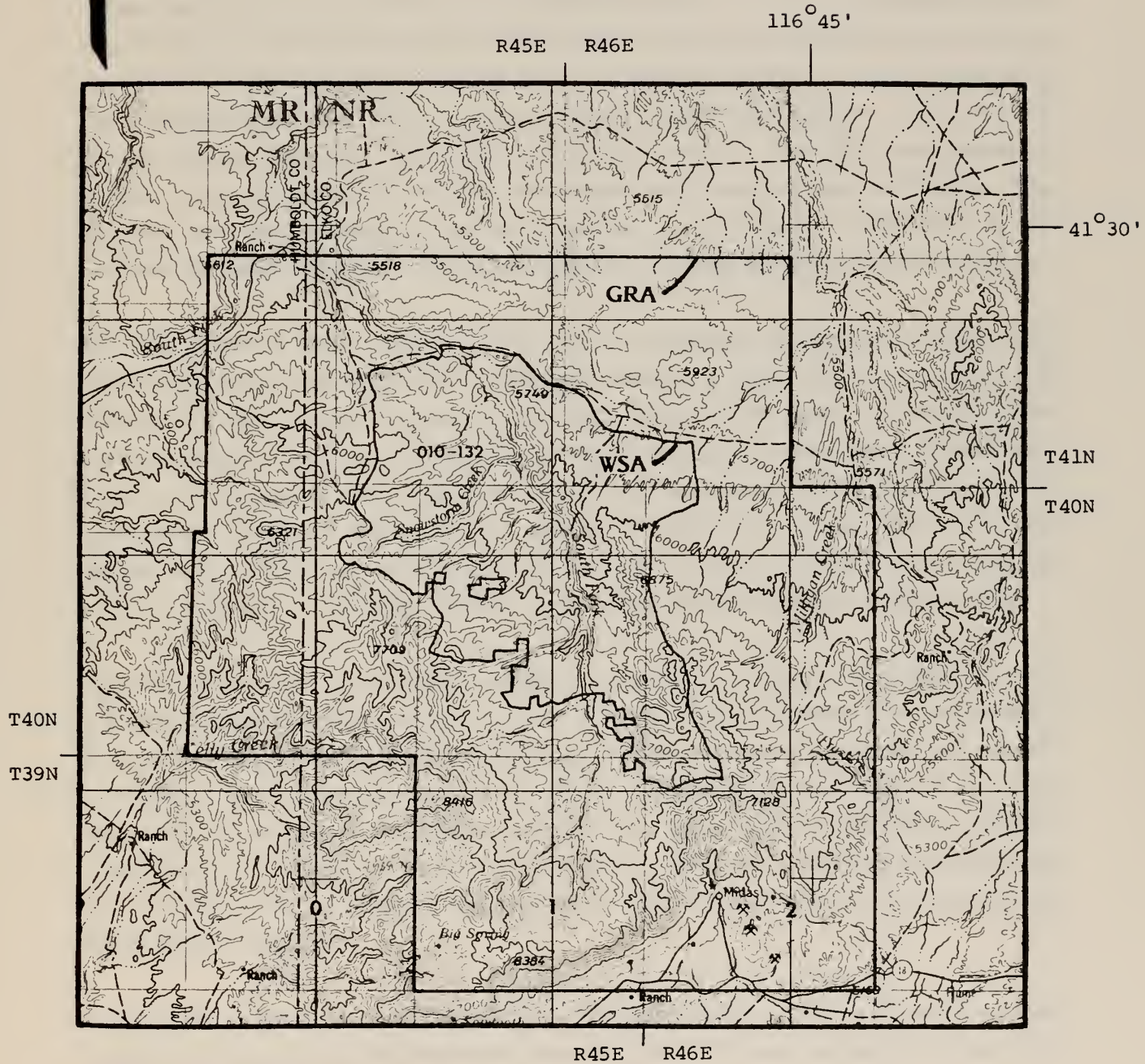
* In this report, citations are superscripted numbers. They refer to bibliographic entries listed in Appendix A, References Cited.

FIGURE 2-1

Topographic Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada



Scale: 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

2.2.1 Geomorphology

The South Fork Little Humboldt GRA is an upland area that is currently in an active degradational cycle. Deeply incised, intermittent streams occupy V-shaped valleys in the central and southwestern portions of the area (see Figure 2-1). The northeastern part of the GRA has a more gentle stream gradient and, consequently, has less dramatic relief. The most dominant landform in the GRA is a pronounced escarpment that extends along the southern edge. The GRA is characterized by horsts and grabens created by the normal faulting typical of the Basin and Range Province. The GRA encompasses a portion of an upthrown block between the Osgood and Tuscarora Mountain Ranges. The minimum net displacement of the block relative to the adjacent valley floor to the southwest is about 3,500 feet. The block is tilted; the strata dip gently north-northeast.

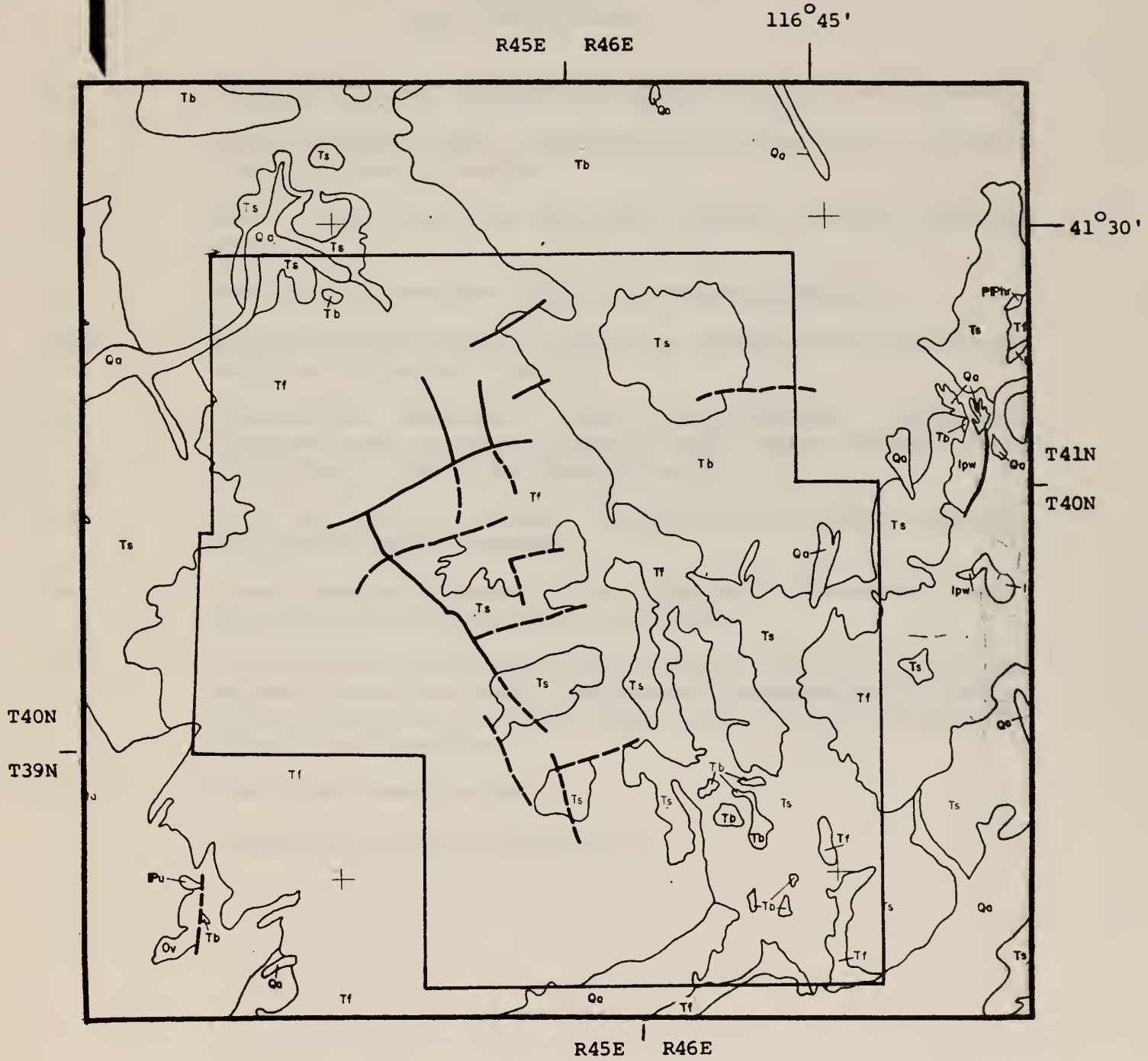
The area contains three drainage basins that are separated by subparallel divides that extend diagonally from northwest to southeast across the area. The area is effectively bisected by the South Fork Little Humboldt River which drains the GRA to the north-northwest. Local relief along the course of the South Fork is about 200-400 feet. The South Fork has an overall gradient of about 10 feet per mile. The southeastern and northeastern parts of the GRA are drained by Kelly Creek and Milligan Creek, respectively. First and second order streams in the area exhibit a trellis drainage pattern. Drainage is controlled, at least in part, by faulting (see Figures 2-2 and 2-3).

The area is an active degradational geomorphic regime. The high percentage of slope in the area implies that it is in a mature stage of landform development. The southwestern part of the area is nearly 95 percent in slope. Erosion has removed tremendous volumes of material from the southwestern area. Much of this detritus was deposited in alluvial fans along the margins of the adjacent intermontane basin. Headward erosion of streams along the major escarpment in the southern part of the area is less pronounced because of the limited size of available drainage basins and/or more recent vertical movement along the bounding fault.

Total relief in the area is over 3,200 feet. The highest point (8,400 feet) and the lowest point (5,200 feet) are in the southwest corner of the GRA, near the town of Midas. This is also the area of greatest local relief (3,216 feet).

FIGURE 2-2

Geologic Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada



Scale: 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

FIGURE 2-2
(Continued)

Geologic Map Legend For
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada

Qa - Alluvium: Silt, sand, and gravel along streams, including terrace deposits.

Ts - Tertiary Sediment Rocks: Dominantly tuff and welded tuff. Includes minor clastics and carbonates.

Tf - Felsic Volcanic Extrusives: Dominantly rhyolites to dacites; flows and domes.

Tb - Mafic Volcanic Extrusives: Dominantly andesites to basalts.

PPhr - Havallah and Reservation Hill Formations: Metagraywacke and dolomite, sandstone, siltstone, and limestone.

Pu - Pennsylvanian Sedimentary Rocks, Undifferentiated: Dominantly limestones, minor clastics, and andesitic tuff. Includes Mitchell Creek, Quilici, Moleen, Tomera, and Hogan Formations.

Ov - Valmy and Vinini Formations: Siltstone, shale, greenstone, quartzite, chert, and bioclastic limestones.

Lpw - Lower Paleozoic Western Facies: Dominantly fine-grained clastic sediments with some limestones and dolomites.

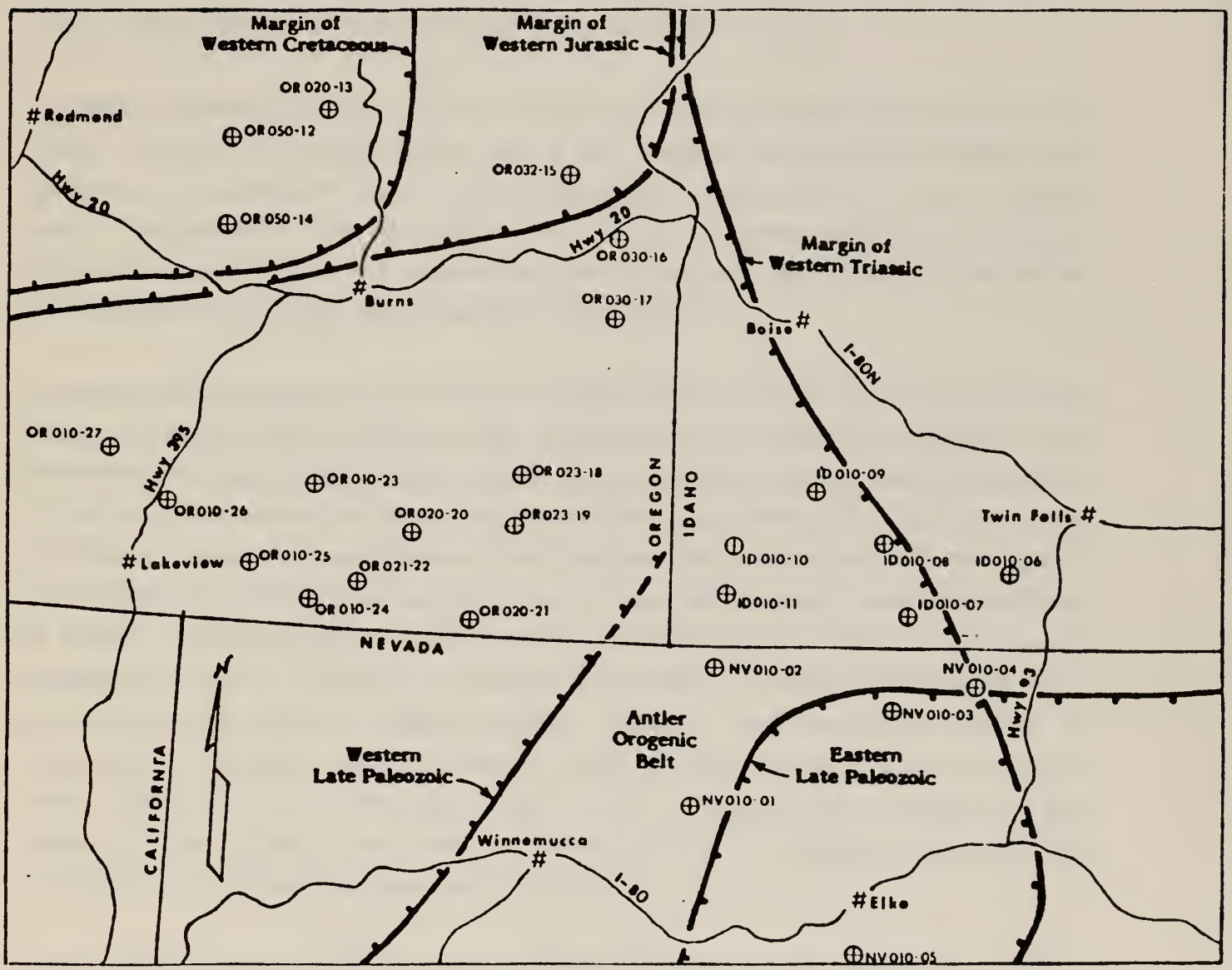
Lpu - Lower Paleozoic Carbonates Undifferentiated: Dolomite and limestone. Includes Simonson and Sevy, Lone Mountain, Laketown, and Ely Springs Dolomites, and Guimette, Devil's Gate, Nevada, Roberts' Mountain and Hanson Creek Formations.

 - Fault (dashed where inferred).

 - Geologic contact (dashed where inferred).

FIGURE 2-3

Paleogeographic Map[7]
Oregon-Idaho-Nevada
Tri-State Area



2.2.2 Lithology and Stratigraphy

Rocks within or near the South Fork Little Humboldt GRA range in age from Early Paleozoic dolomites and limestones to Late Miocene or younger lacustrine, fluvial, and volcaniclastic strata. Whereas Paleozoic sequences may have an aggregate thickness up to 28,000 feet in northeastern Nevada, Mesozoic strata are only a few thousand feet thick. Cenozoic valley fill sediments may be up to 10,000 feet thick.

The oldest exposed rock units within the GRA are Tertiary andesites and basalts, even though Ordovician through Permian strata are exposed immediately northeast and southwest of the area (see Figure 2-2) and undoubtedly occur under the Tertiary volcanic cover. The depth to Paleozoic rocks in the GRA is unknown. Depth is difficult to estimate because of structural complexities that include local thrust faults as well as the overriding Basin and Range normal faulting structural style.

Paleozoic units southwest of the GRA, in Humboldt County, and to the northeast, in Elko County, Nevada, include dolomites and limestones of the Ordovician Hanson Creek Formation and eugeoclinal siltstones, shales, quartzites, cherts, and bioclastic limestones of the Valmy Formation (southwest) and Vinini Formation (northeast). Also present are the Roberts' Mountain, Lone Mountain, and Laketown Formations, all of Silurian age[5]. The Devonian Simonson, Sevy, Guinette, Devil's Gate, and Nevada Formations also may be present. Pennsylvanian strata southwest of the GRA include limestones and clastic sedimentary units of Tomera and Moleen Formations. Permo-Pennsylvanian units northeast of the area are metagraywackes, dolomites, and fine-grained clastics of Havallah and Reservation Hill Formations. None of these Paleozoic units is known to contain GEM resources in the vicinity of the GRA. Of particular importance is the absence of Late Paleozoic and Mesozoic strata. This has an important bearing on the assessment of the oil and gas potential of this GRA.

Tertiary units within the GRA may be subdivided into three broad categories, as shown on the geologic map (see Figure 2-2). Most dominant are felsic volcanic extrusives. These are dominantly calc-alkalic and metaluminous and range in composition from rhyolite to dacite. They consist of flows and domes and underlie an estimated 70 percent of the area.

Ferromagnesian-rich volcanic extrusives cover about 15 percent of the GRA. These comprise flows of aphanitic andesites and basalts. A minor amount of porphyritic andesitic basalt is present in the northern portion. The remainder of the area is immediately underlain by Tertiary sedimentary rocks, tuffs, welded tuffs, and slightly opaline lacustrine carbonates. The majority of the Tertiary sediments in the South Fork Little Humboldt GRA compose the Late Miocene or Pliocene lacustrine, fluvial, and volcaniclastic strata of the Humboldt Formation[8]. Valley fill comprises Quaternary alluvial and fanglomeratic sediments.

2.2.3 Structural Geology

The tri-state area of northeastern Nevada, southern Oregon, and southwestern Idaho is characterized by several major structural elements. The most obvious reflections of the structure are the ridges and valleys that resulted from Basin and Range faulting, a relatively young structural event.

During the Early Paleozoic this area was the site of marine sedimentation in the north-northeast trending Cordilleran geosyncline. Sedimentation persisted in three subparallel belts until the end of the Devonian Period. One sedimentation belt was located in the eastern half of Nevada and received nearshore to littoral deposits of shallow-water carbonates with a minor amount of interbedded shale and sandstone. The second sedimentation belt was in the western half of the state and was the locus of transitional, progressively deeper water deposits. The third belt, located further west, was the site of eugeoclinal deposits.

In Late Devonian time, the Antler Orogeny developed along a north-northeast trending swath through northwest Elko County, Nevada, and on into southwestern Idaho[9]. The South Fork Little Humboldt GRA lies approximately on the axis of the Antler orogenic belt. As a direct result of the Antler orogenic uplift, a Pennsylvanian clastic wedge developed along the margins of the uplift. The orogeny culminated in a period of extensive thrust faulting that includes the Roberts' Mountain thrust.

The Sonoma Orogeny occurred during the Permian in north-central Nevada[7]. This deformational episode included more thrust faulting in the vicinity of the South Fork Little Humboldt GRA.

A tremendous increase in volcanic activity occurred in the tri-state area during the Late Cenozoic. This is recorded in the large volume of Tertiary extrusives that blanket the area. Basin and Range block faulting has continued in parts of Nevada throughout historical time.

2.2.4 Paleontology

There are no reported fossilferous strata within the South Fork Little Humboldt GRA. Paleozoic strata outside the GRA contain shelf facies and eugeoclinal radiolarian cherts and graptolite-bearing black shales. Elsewhere, the Tertiary Humboldt contains mammalian fauna. None is known to occur within this GRA, however.

2.2.5 Historical Geology

The present geologic character of the Great Basin resulted from the progressive development of the western portion of the North American continent throughout geologic time. Beginning in the Late Precambrian and continuing into the Middle Paleozoic, eastern Nevada, western Utah, and southwesternmost Idaho were characterized by a miogeoclinal environment in which shelf margin carbonates, shales, and sandstones were deposited. In contrast, western Nevada and southern Oregon were in a eugeoclinal environment in which dark shales, radiolarian cherts and basaltic materials (Steinman's Trinity) were formed.

The Middle Paleozoic (Late Devonian-Early Mississippian) Antler Orogeny deformed and thrust the eugeoclinal sediments over the shelf-type sediments to the east, resulting in a north-trending Antler Highlands in central Nevada. A vast amount of fine-grained detritus was shed eastward during the Mississippian, producing thick upper Paleozoic shales in eastern Nevada and western Utah. Erosion of the Antler Highlands resulted in the deposition of coarse sediments during the Early Pennsylvanian. Thousands of feet of sandstone and conglomerate were deposited in northern Nevada around the margins of the Antler Highlands. Late Pennsylvanian and Permian shallow water sediments overlapped and overstepped the eroded roots of the Antler Highlands. Sediments deposited over the Antler Highlands in the Permian were predominantly of the deep-water variety. The next significant tectonic episode (the Sonoma Orogeny) thrust the ocean floor siliceous and volcanic materials eastward over the shallow water, clastic sedimentary rocks that covered the ancient Antler Highlands.

Development of western North America in the Mesozoic was dominated by oceanic plate subduction along the continental margin that resulted in a complex history of concomittant sedimentation, deformation, and igneous activity. During this time, the well-defined overthrust belt that extends from Canada to Mexico was formed. This deformation occurred during the Sevier (Late Jurassic to Latest Cretaceous) and Laramide orogenies (Latest Cretaceous to Early Tertiary Eocene)[6].

Widespread silicic volcanic rocks formed in the Great Basin in Early and Middle Cenozoic time (primarily 20-34 million years ago). During Late Cenozoic time volcanic activity of the Great Basin changed to a bimodal basalt-rhyolite assemblage that reflects the taphrogenic character of the region. It was also during this time that the tectonic character of the region changed from one of compression to one of extension and led to the development of the Basin and Range Structure.

2.3 ENVIRONMENTS FAVORABLE FOR G - E - M RESOURCES

Except for a gold-silver environment, all geologic environments within the South Fork Little Humboldt GRA are unfavorable to slightly favorable for the occurrence of GEM resources. The low favorability classifications for resources other that gold and silver are based on the fact that requisite geologic environments are not known to exist and/or geologic processes essential for the accumulation of mineral resources cannot be demonstrated in the area. These are summarized in Table 4-1.

2.3.1 Environments for Metal Resources

The South Fork Little Humboldt GRA contains only one environment that is favorable for the occurrence of metals. This environment occurs in three areas, labeled 1-3C, 2-3C and 3-4D on the Land Classification Map (Figure 4-1), and has the potential for containing deposits of gold and silver[10]. The environment is in the contact zone between rhyolitic extrusives (geologic map unit Tf) and the ferromagnesian-rich extrusive rocks (geologic map unit Tb). The contact zone is the gold and silver producing environment of the Midas District, four miles south of the GRA. The general geologic setting of the two favorable areas is similar to that of the Midas District.

Gold and silver were produced from high-grade ores in the Midas District that occur as siliceous replacement bodies in the rhyolite near its contact with the ferromagnesian-rich extrusives. Silicification was intense in the ore zone; the richest ores are characteristically highly iron-stained. Although there is no direct evidence of intense silicification, iron-staining or other types of alteration along exposed portions of the contact zone between the two extrusive units in this GRA, the proximity to a known producing area, the fact that the GRA lies within the Lynn-Railroad mineral belt as recognized by Roberts[5], and the geologic similarity to the Midas District provide sufficient evidence to infer the possible occurrence of environments favorable for gold and silver.

2.3.2 Environments for Oil and Gas Resources

The South Fork Little Humboldt GRA contains no environments that are favorable for the occurrence of potential oil and gas resources. This conclusion is based on the inferred absence of Late Paleozoic through Late Mesozoic strata (see Section 2.2.2). The area was above sea-level from Late Paleozoic to Late Mesozoic, hence the appropriate geologic environment did not exist. Although the area is within the limits of Miocene Humboldt Lake deposits and is partially leased, there are no indications of favorability[7].

2.3.3 Environments for Oil Shale and Tar Sands Resources

The South Fork Little Humboldt GRA contains no geologic environments that are favorable for the occurrence of oil shale or oil impregnated sand[11]. The area is underlain predominantly by Tertiary volcanics of felsic to ferromagnesian composition. Potential sedimentary hosts are largely tuffaceous and contain only minor amounts of non-volcanic clastic material and carbonates. Favorable lithologies are not present.

2.3.4 Environments for Geothermal Resources

The South Fork Little Humboldt GRA contains no geologic environments that are favorable for geothermal resources because requisite geologic criteria are not satisfied in the area[12]. The topographic criterion is not satisfied because the area is part of an upthrown block rather than in a basinal structure. There is little likelihood that this GRA could contain any geothermal resources.

2.3.5 Environments for Uranium and Thorium Resources

The South Fork Little Humboldt GRA does not contain geologic environments that are favorable for the occurrence of uranium or thorium[13]. The GRA does not exhibit sufficient geologic phenomena to meet the lithology, alteration, or geochemical recognition criteria for environments that may be favorable for the occurrence of uranium or thorium. There are no uranium occurrences in or near the area. Although mineralization occurs near the area, there is no evidence that indicates the presence of associate uranium or thorium.

2.3.6 Environments for Coal Resources

The South Fork Little Humboldt GRA has a low favorability for the occurrence of coal and lignite deposits[14]. The chances for coal or carbonaceous materials to have formed in the study area are remote, because the South Fork Little Humboldt GRA region does not contain geologic environments favorable for the formation of coal deposits. Much of the area is either mantled with accumulations of lavas and related volcanic products or has been modified by adjacent volcanic activity.

2.3.7 Environments for Industrial Minerals Resources

Tertiary sedimentary rocks in the area contain some lacustrine carbonates. The chances for the occurrence of environments favorable for commercial limestone are small but are not entirely ruled out. Paleozoic limestones might be present at depth within the GRA. Felsic volcanics present in the area may be favorable for the occurrence of bentonite. There is no direct evidence to support this, however. Turquoise is known to occur 35 miles southeast of the GRA; there is a remote possiblity that turquoise may exist within this study area[15].

2.3.8 Environments for Paleontological Resources

Paleontological assembleges occurring in or near the South Fork Little Humboldt GRA range from those representing Ordovician marine facies to those representing Tertiary non-marine facies[8].

Paleozoic carbonate units adjacent to the South Fork Little Humboldt GRA are fossilferous. They contain miogeoclinal marine fauna that consist of brachiopods, mollusks, bryozoa, fusulinids, and sparse trilobites. The Ordovician Vinini Formation is exposed in Paleozoic units northeast of the GRA. It contains radiolarian cherts interbedded with eugeoclinal, graptolite-bearing black shales. These Paleozoic assemblages are not exposed within the GRA but may occur at depth.

The majority of the Tertiary sedimentary units (geologic map unit Ts) are Late Miocene or younger and consist of lacustrine, fluvial, and volcanoclastic strata of the Humboldt Formation. Fossils found elsewhere in the Humboldt Formation include mammals, non-marine mollusks and leaf flora.

2.3.9 Environments for Geologic Hazards

Potential geologic hazards in the South Fork Little Humboldt GRA consist of faults and landslides[15]. These features were noted from aerial photographs, geologic maps, and topographic maps. There is no historical record of violent seismic or volcanic activity in the area. The potential for mass movement exists along all the over-steepened slopes within the GRA.

2.3.10 Educational and Scientific Localities

There are no known ESLs in the South Fork Little Humboldt GRA.

3. ENERGY AND MINERAL RESOURCES IN THE SOUTH FORK LITTLE HUMBOLDT GRA

Parts of WSA (010-132) within the South Fork Little Humboldt GRA have moderate favorability for the occurrence of gold and silver deposits. All other areas within the GRA have either low favorability ratings or are considered unfavorable.

3.1 KNOWN DEPOSITS

The GRA contains several known gold and silver deposits solely because the southern edge of the GRA was drawn along arbitrary Cadastral boundaries. The WSA (010-132) within the South Fork Little Humboldt GRA contains no known deposits, claims, mineral occurrences, Known or Potential Geothermal Resource Areas (KGRA or PGRA), or leases.

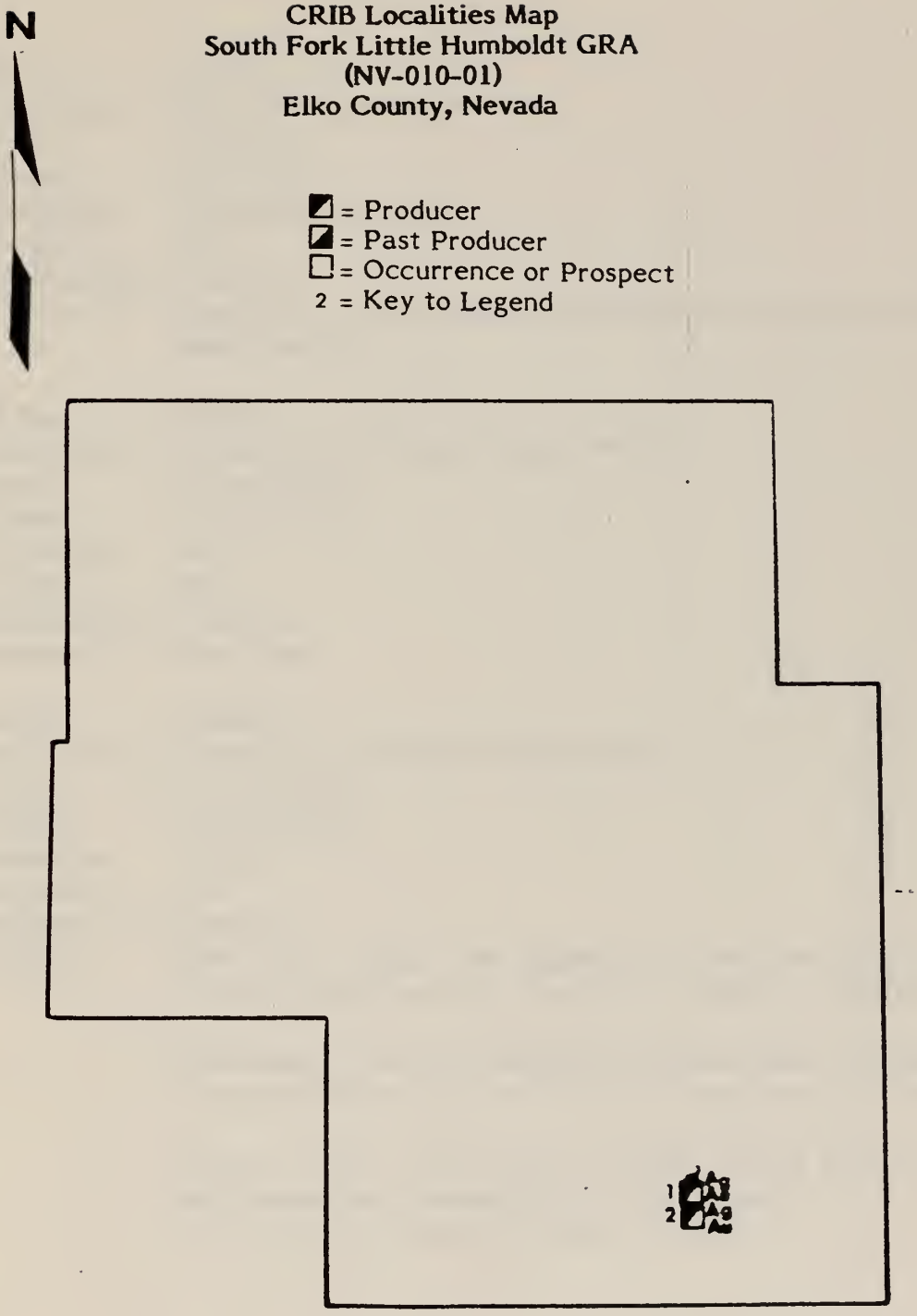
The Gold Circle District, known locally as the Midas District, is about four miles south of WSA 010-132. The district lies within the north-northwest trending Lynn-Railroad mineral belt, near the town of Midas, Nevada. Total past production in the Gold Circle District was about 110,000 ounces of gold, less than 10 million ounces of silver and less than two short tons of lead[5]. Production came from epigenetic deposits in fissure veins, lodes, and irregular replacement bodies in fractured rhyolite, at or near its contact with andesitic extrusive rocks. Ore minerals were pyrite, stromeyerite, native gold, and tetrahedrite[16]. The ore bodies occurred in silicified breccia zones and in near-vertical veins, the latter of which were relatively higher grade. Alteration associated with the mineralization includes hydrothermal bleaching, hematization, and silicification.

3.2 OCCURRENCES

The South Fork Little Humboldt GRA contains three CRIB localities and 58 MILS localities (Figures 3-1 and 3-2), none of which are in the WSA. The CRIB localities include the Elko Prince Mine, the Deerhead No. 6, and one unnamed past producer.

FIGURE 3-1

CRIB Localities Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada



Scale 1:250,000
(McDermitt $1^{o}x2^{o}$ NTMS Quadrangle)

This map is an overlay for figures 2-1 and 2-2.

FIGURE 3-1
(Explanation)

1. CRIB No.: M029081
   Location Name: Midas Area; Deerhead No. 6
   Latitude: 41°-15'N
   Longitude: 116°-48'W
   Commodities: Silicified Breccia Zone
   Production: None
   Production Size: Unknown
   References: Garside, L.J., 1973, Radioactive Mineral Occurrences in Nevada; NBMG Bull. 81

2. CRIB No.: W016321
   Location Name: Weeks, R. Gold Circle District (Midas)
   Latitude: 41°-14'-00"N
   Longitude: 116°-48'-00"W
   Commodities: Au, Ag
   Production: Yes
   Production Size: Unknown
   References: None given

3. CRIB No.: W002898
   Location Name: Smith, M. Gold Circle District (Midas)
   Latitude: 41°-14'-38"N
   Longitude: 116°-48'-00"N
   Commodities: Au, Ag
   Production: Yes
   Production Size: Unknown
   References: Rott, E.H., 1931, Ore Deposits of the Gold Circle Mining District, Elko, Co., Nev.; Nevada Univ. Bull. v.25, No.5, 30p.

   Koschmann, A.H. and Bergendahl, M.H., 1968, Principal Gold Producing Districts in the U.S.; USGS Prof. Paper 610, p.176.

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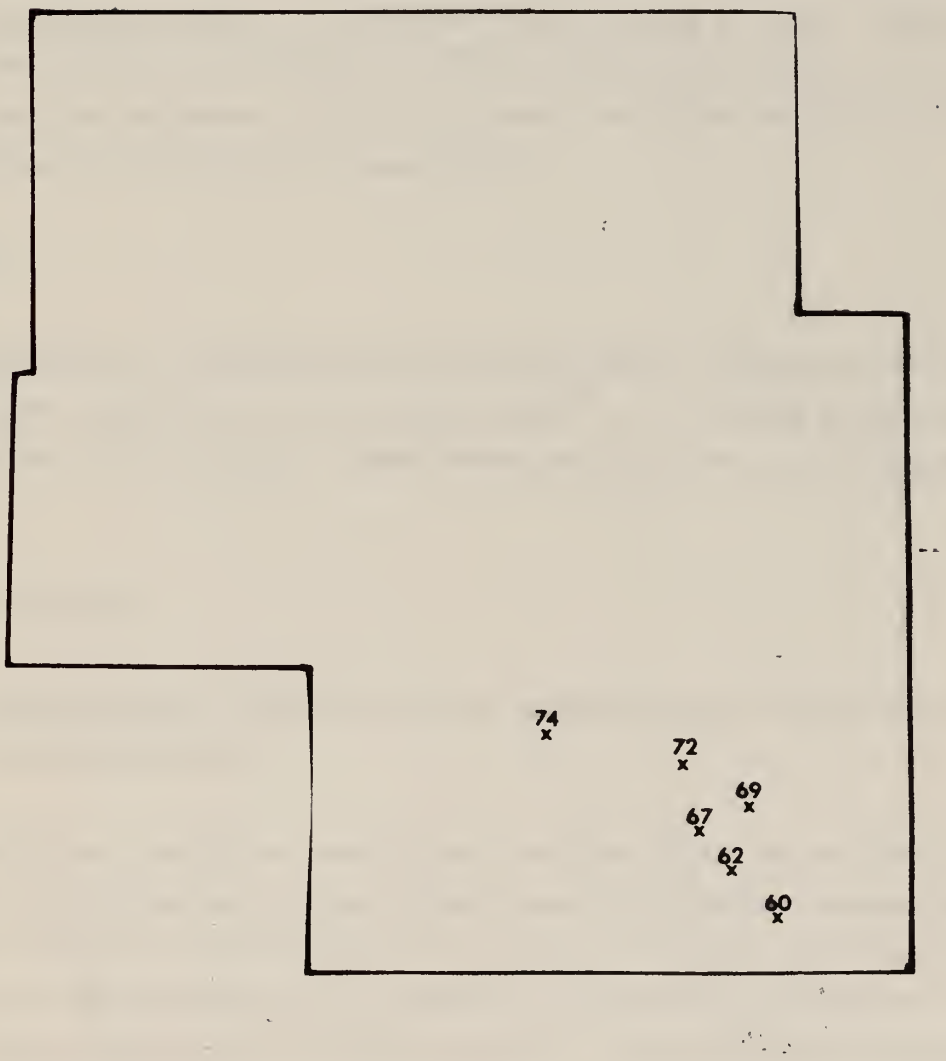
N

FIGURE 3-2

MILS Localities Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada

$^{74}_{X}$ = Site Keyed to Explanation



Explanation for this map is in Appendix B: Explanation for Figure 3.2

This map is an overlay for figures 2-1 and 2-2.

Scale 1:250,000
(McDermitt $1^{o}x2^{o}$ NTMS Quadrangle)

MILS listings for this area are primarily of past producing mines. However, they do include a few mineral occurrences. Most of the mines produced both gold and silver from underground operations in the early twentieth century. A few of the mines produced only gold. The Last Chance Mine produced copper and lead as well as gold and silver. Some zinc was produced from the Nevada Gold Mine. Minor placer operations and one tungsten occurrence also are reported in the MILS data.

3.3 CLAIMS

The South Fork Little Humboldt GRA contains 425 mining claims (see Figure 3-3). All but six of the claims are located in T39N-R46E near the town of Midas. This township also contains the majority of the MILS and CRIB localities in this GRA. The remainder of the claims are just southwest of the WSA. None of the claims are in WSA (010-132). Claims information is current as of 15 August, 1982.

3.4 LEASES

The eastern two-thirds of T40N-R46E and the eastern half of T38N-R46E are currently leased or are under application for oil and gas leases[7]. This leasing activity does not include any portion of WSA 010-132. Lease information is current as of 15 August, 1982.

3.5 DEPOSIT TYPES

The deposit types anticipated in WSA 010-132 are modeled after deposits known to occur in the Gold Circle (Midas) District.

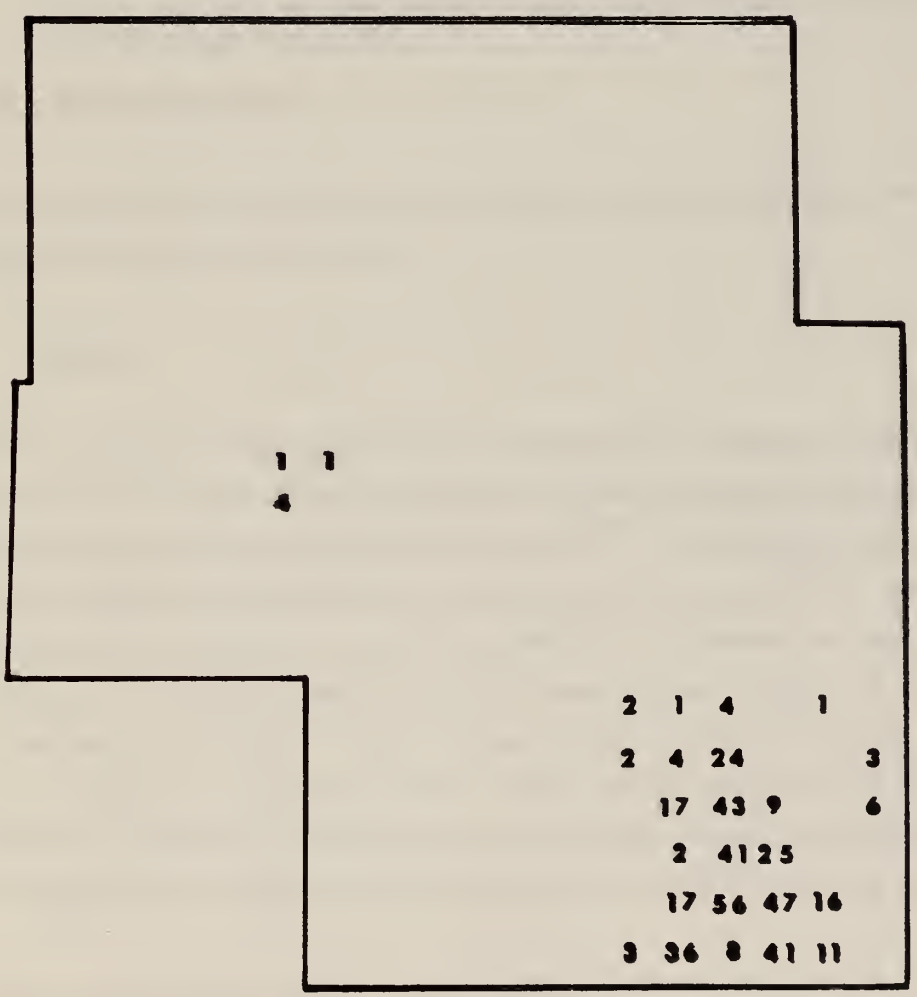
Nevada is divided into two distinct metallogenic provinces based on the distribution of known metallic occurrences and related lithologic and stratigraphic considerations. The western half of Nevada is characterized by major gold, silver, tungsten, antimony, mercury, and iron deposits that occur in Paleozoic and Mesozoic silicious and volcanic rocks and Tertiary volcanic rocks. Eastern Nevada is characterized by major lead and zinc deposits with associated gold and silver in Precambrian rocks and Paleozoic carbonates. The study area lies in the western zone near the transition between the two metallogenic provinces[5].

N

FIGURE 3-3

Claims Density Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada

43 = Number of Claims Per Section



Scale 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

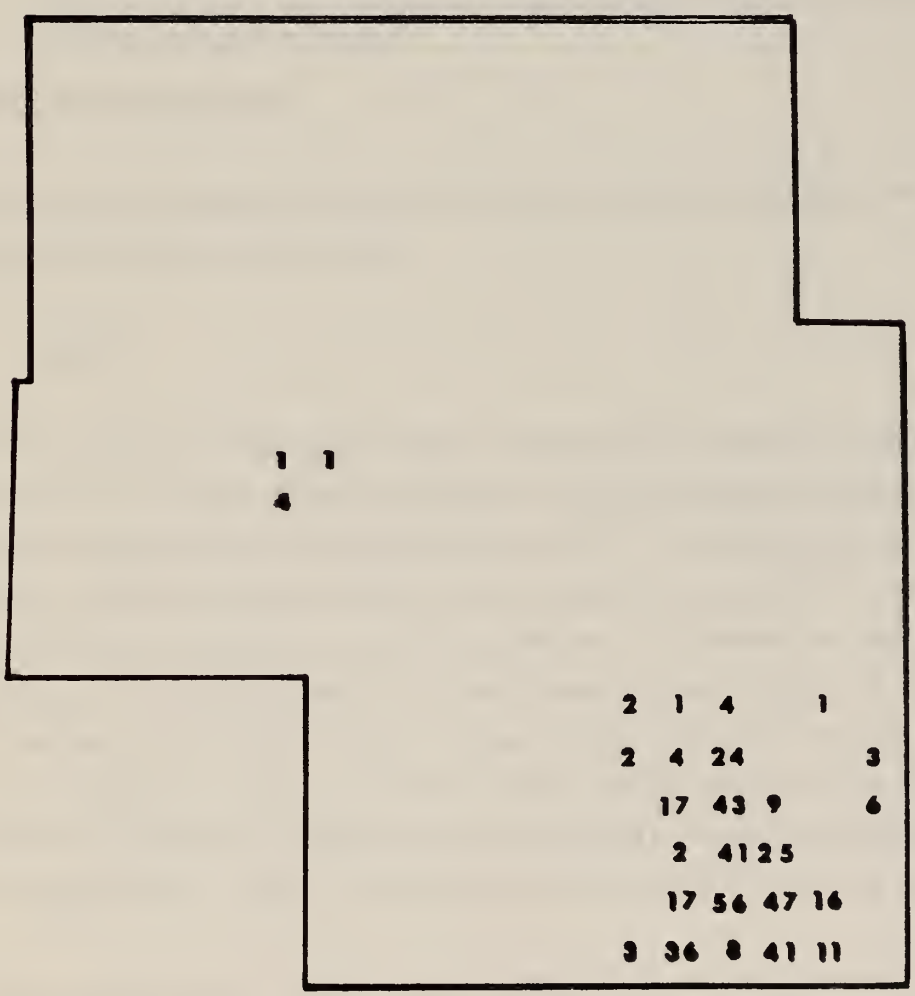
This map is an overlay for figures 2-1 and 2-2.

N

FIGURE 3-3

Claims Density Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada

43 = Number of Claims Per Section



Scale 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

This map is an overlay for figures 2-1 and 2-2.

Fissure veins, fault breccia, and replacement bodies similar to the deposits at Midas could occur at depth along the contact between the rhyolites and ferromagnesian-rich volcanics.

Recognition criteria for such deposits include:

- The existence of the contact between the rhyolites and andesites.
- Structural site preparation and fluid conduits such as faults, fractures, and interformational and fault breccia zones.
- Alteration: silicification, bleaching, and hematization.
- The occurrence of associated copper, lead, or zinc mineralization; possible mineral zonation.

3.6 MINERAL ECONOMICS

The South Fork Little Humboldt GRA has moderate to high favorability for potential gold and silver resources (see Section 2.3.1).

3.6.1 Gold

Jewelry and the arts are estimated to have consumed 54 percent of all the gold used in the United States in 1981. Other consumers include electronic industries, 37 percent; dental, eight percent; and investments, one percent[17]. In 1981, 25 mines in the western United States yielded 94 percent of the domestic gold production[18]. Nearly 40 percent of the domestic gold production was recovered as a by-product of base metal (chiefly copper) mining. The United States had a net import reliance equal to seven percent of apparent consumption in 1981. Import reliance has decreased steadily to the present level since a high of 61 percent in 1977. Gold prices that reached record levels in January, 1980, declined from $597.00 per troy ounce at the beginning of 1981 to a low of $391.00 in August, 1981. August, 1982 prices averaged $367.00 per troy ounce.

United States consumption of gold increased slightly from 1980 to 1981. It is estimated that 1982 domestic mine production of gold will be 1.6 million troy ounces whereas United States consumption will be about five million troy ounces[18]. As of July, 1982, domestic mine production totaled about 730,000 troy ounces[19]. Recycled scrap produced 3.9 million troy ounces of gold in 1981. Similar production is anticipated in

1982. Total demand for gold in the United States is expected to increase at an annual rate of about 2.2 percent through 1990[18].

3.6.2 Silver

The photographic industry is the largest consumer of silver in the United States, accounting for about 35 percent of the total United States consumption[20]. Other major uses include electrical and electronic components, 29 percent; sterling-ware, ten percent; alloys and solders, eight percent; and miscellaneous uses, 18 percent. About 55 percent of the domestic production comes from by-product processes of copper, lead, and zinc mining. Estimated domestic mine production of silver in 1982 will be 42 million troy ounces, whereas United States apparent consumption will be 150 million troy ounces. United States consumption in 1981 was about four times domestic mine production, and 39 percent of world production[21]. About 37 percent of the total United States consumption of silver in 1981 was met by recycling scrap silver. This left a deficit net import reliance of 50 percent of the United States silver consumption in 1981. Estimated yearend stocks for 1981 totalled 163.8 million troy ounces. The demand for silver is expected to increase at a rate of about three percent through 1990[22]. The average daily price of silver in 1981 was about $11.00 per troy ounce, down about 50 percent from 1980. The price of silver futures at the end of July, 1982, was $6.96 (December, 1982), and is expected to be $7.50 (July, 1982), and $8.12 (March, 1984)[22]. Future United States requirements will be met by increased reliance on imports, secondary recovery, and withdrawal from existing stockpiles.

3.7 STRATEGIC AND CRITICAL MINERALS AND METALS

Silver is the only strategic commodity for which the South Fork Little Humboldt GRA is considered favorable. (See Sections 2.3.1 and 3.6.2 of this report, and Table 3-4 of the TERRADATA report entitled "Procedures for the Assessment of Geology, Energy, and Minerals (GEM) Resources.")

4. CLASSIFICATION OF LAND FOR G - E- M RESOURCES POTENTIAL

The South Fork Little Humboldt GRA, specifically WSA 010-132, contains two sub-areas (labeled 1-3C and 2-3C on Figure 4-1) that are classified 3-C for potential gold and silver resources. These two areas are moderately favorable (Class 3) for gold and silver resources because they contain environments similar to known producing localities in the nearby Midas District. Proximity to the Midas District also influences the assigned C confidence level. The area labeled 3-4D is the Midas Mining District. The remainder of the GRA is Classified 1B for metal deposits because the inferred favorable geologic environment does not exist in this portion of the WSA.

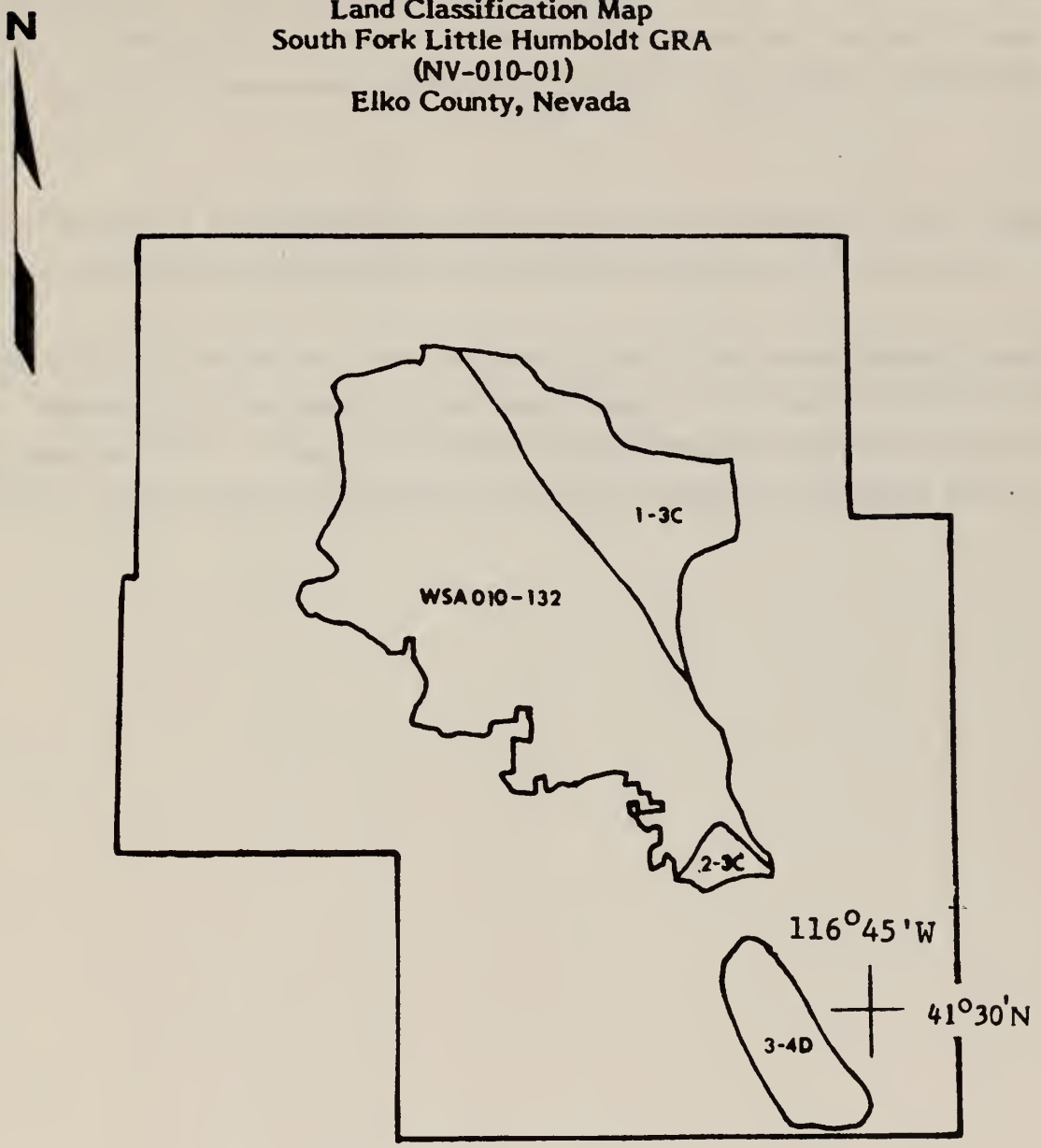
The entire GRA and therefore the WSA is classified least favorable for the occurrence of potential oil and gas resources. Although the area is within the limits of Miocene Humboldt Lakes deposits, and is partially leased, there are no indications of favorability[7]. The area was above sea-level from Late Paleozoic to Late Mesozoic time, hence the appropriate geologic environment did not form. The unfavorable classification of this area for oil and gas potential resources is in disagreement with the USGS classification of the same area for oil and gas. The USGS includes this GRA in a broad area of land considered "prospectively valuable for oil and gas[23]." The structural position of the South Fork Little Humboldt GRA on the axis of the Antler orogenic belt precludes the likelihood of the accumulation of hydrocarbons in this area[7]. The area is classified unfavorable by the USGS for other leasable commodities[24, 25, 26, 27, 28].

The entire South Fork Little Humboldt GRA is classified according to the BLM classification scheme presented in the TERRADATA report, "Procedures for the Assessment of Geology, Energy, and Minerals (GEM) Resources," as having a low favorability for coal resources (Class 2). This classification is given because the geology of the study area does not indicate environments favorable for the formation of coal deposits. Much of the area is either mantled with accumulations of lavas and related volcanic products or has been modified in one way or another by adjacent volcanic activity.

Although a few seams of low-grade lignite occur in Oregon, north of the study area, and a minor amount of coal was mined east of the area in Idaho, there are no geologic indications that suggest any coal could exist in this GRA. Because of this, a low (B) confidence level for the coal classification is assigned.

FIGURE 4-1

Land Classification Map
South Fork Little Humboldt GRA
(NV-010-01)
Elko County, Nevada



This map is an overlay for Figures 2-1 and 2-2. Subareas are discussed in the text.

Scale 1:250,000
(McDermitt 1°x2° NTMS Quadrangle)

The South Fork Little Humboldt GRA is least favorable to only slightly favorable for all other commodities. As shown in Table 4-1, limestone, bentonite, and turquoise have a low (Class 2) favorability. Limited amounts of limestone and bentonite could be expected to occur in interbedded Tertiary volcaniclastic sedimentary units within the GRA.

Phosphate is given a low favorability, even with the noted absence of the Phosphoria Formation. The chances for the occurrence of economic phosphate are very low.

The study area is classified as least favorable (Class 1) for paleontological resources because Paleozoic units favorable for fossil assemblages are not exposed within the GRA or the contained WSA. Although the fossil-bearing Humboldt Formation occurs within the GRA, no specific fossil occurrences are known; hence, the confidence level is low (A).

TABLE 4-1

Classification Of Lands Within The South Fork Little Humboldt GRA (NV - 010 - 01) Elko County, Nevada For G - E - M Resource Potential

COMMODITY	AREA	CLASSIFICATION LEVEL	CONFIDENCE LEVEL	REMARKS
Metals	1-3C, 2-3C	3	C	Au, Ag
	3-4D	4	D	Au, Ag
	Rest of GRA	1	B	
Geothermal	Entire GRA	1	B	
Uranium/Thorium	Entire GRA	1	A	
Coal	Entire GRA	2	B	
Oil and Gas	Entire GRA	1	A	
Tar Sands/Oil Shale	Entire GRA	1	C	
Limestone	Entire GRA	2	C	
Bentonite	Entire GRA	2	A	
Diatomite	Entire GRA	1	B	
Clinoptilolite	Entire GRA	1	A	
Barite	Entire GRA	1	A	
Turquoise	Entire GRA	2	A	
Perlite	Entire GRA	1	B	
Phosphate	Entire GRA	2	A	
Paleontology	Entire GRA	1	A	
Hazards	See Hazards Map (GRA FILE)			
ESLs	None	1	C	

LEGEND:
Class 1 - Least Favorable
Class 2 - Low Favorability
Class 3 - Moderate Favorability
Class 4 - High Favorability

Confidence Level A - Insufficient data or no direct evidence
Confidence Level B - Indirect evidence available
Confidence Level C - Direct evidence but quantitatively minimal
Confidence Level D - Abundant direct and indirect evidence

5. RECOMMENDATIONS FOR FUTURE WORK

The Gold Circle (Midas) Mining District was actively prospected and mined in the late Nineteenth and early Twentieth Centuries. It is doubtful that any of the land within a reasonable distance of the town of Midas, Nevada, escaped the close scrutiny of the early prospectors. Therefore, further reconnaisance-level surface investigations, especially for gold and silver, are probably unwarranted. Surface investigations for commodities other than precious metals could be beneficial, as the exploration focus would be entirely new. Detailed geophysical and geochemical surveys would be the most cost-effective means of upgrading the available database in this area, particularly for precious metals not easily found by reconnaissance methods. There are two problems to be overcome in this regard. First, the density of the existing geochemical and geophysical data is less than desirable, and second, the data may be biased towards pre-existing trends, districts, known occurrences and models. For example, detailed sampling of stream-sediments in drainages that cross the rhyolite-andesite contact or samples of groundwater from springs emanating from the contact between the targeted rhyolites and andesites would be useful for testing the Midas model. Geochemical sampling has the added potential of picking up mineral zonation that is common in deposits east of this area. The anticipated size of potential deposits (Midas-type) dictates close-spacing in any sampling program.

- APPENDIX A -

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- APPENDIX B -

Explanation for Figure 3-2

FIGURE 3-2
(Explanation)

```
  108
60 NAME- BLACK CLOUD                              REFERENCE NUMBER- 0320070516
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1777M:500M
   LATITUDE-   N 41 13 22         PRECISION-  500M
   LONGITUDE- W 116 46 39  REFERENCE POINT- APPRDX
   UTM:  ZONE 11N  NORTHING 4563298  EASTING 518649
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 29  SECTION SUBDIVISION- SE
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- PRIVATE
   STATUS  PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- BLACK CLOUD
   COMMOD/MOD-  GOLD                                        SILVER
   WFOC MINE PRODUCTION FILES,SPOKANE, WA.

  109
60 NAME- ESMERALDA MINE                           REFERENCE NUMBER- 0320070201
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1728M:500M
   LATITUDE-   N 41 13 07         PRECISION-  100M
   LONGITUDE- W 116 46 22  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4562817  EASTING 519047
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 31  SECTION SUBDIVISION- SENWNW
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- ESMERALDA MINE
   OTHER NAMES-  ESPERANZA
   COMMOD MOD-  GOLD
   BUR OF MINES BULL. 54, 1957, P.71.
   MIDAS, NEV 7.5 MIN USGS TOPO, 1965.

  110
60 NAME- ESMERALDA GROUP                          REFERENCE NUMBER- 0320070515
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1743M:500M
   LATITUDE-   N 41 13 16         PRECISION-  100M
   LONGITUDE- W 116 46 22  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4563115  EASTING 519046
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION- SESWE2
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- PRIVATE
   STATUS  PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- ESMERALDA GROUP
   OTHER NAMES-  BUENA GROUP
   COMMOD MOD-  GOLD
   ALSO IN SEC 34.
   MIDAS NEV 7.5 MIN USGS TOPO MAP,  1965.
   NEV BUR MIN BULL 54, 1957, P.71

  111
60 NAME- GOLDEN CHARIOT CLAIM                     REFERENCE NUMBER- 0320070200
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1689M:500M
   LATITUDE-   N 41 13 23         PRECISION-   1KM
   LONGITUDE- W 116 46 13  REFERENCE POINT- TRENCH
   UTM:  ZONE 11N  NORTHING 4563331  EASTING 519255
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- UNKNOWN
   STATUS  UNKNOWN        OPERATION TYPE- SURFACE
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLDEN CHARIOT CLAIM
   OTHER NAMES-  GIBSON LODE
   COMMOD MOD-  GOLD                                      MANGANESE
   ABT 1 MI SE OF ST PAUL MINE.
   NEV. BUR. OF MINES BULL. 54, 1957, P.71.
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FIGURE 3-2
(Explanation Continued)

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  114
62 NAME- BIG CHIEF                              REFERENCE NUMBER- 0320070637
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48        PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- BIG CHIEF
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  115
62 NAME- BLUE HEAVEN                            REFERENCE NUMBER- 0320070638
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48        PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- BLUE HEAVEN
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  116
62 NAME- BOBCAT                                 REFERENCE NUMBER- 0320070639
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48        PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- BOBCAT
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  117
62 NAME- CAPITOL                                REFERENCE NUMBER- 0320070640
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48        PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- CAPITOL
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.
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FIGURE 3-2
(Explanation Continued)

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  118
 62 NAME- CIRCLE BIRD                              REFERENCE NUMBER- 0320070641
    STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
    LATITUDE-   N 41 13 48          PRECISION-   1KM
    LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
    UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
    PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
        DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
    RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
    STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
    MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
    MAP NAME- MIDAS                TYPE- 7.5 MIN
    1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
    PRIMARY NAME- CIRCLE BIRD
    COMMOD/MOD-  GOLD                                    SILVER
    SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
      U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  119
 62 NAME- COLORADO GRANDE                          REFERENCE NUMBER- 0320070642
    STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
    LATITUDE-   N 41 13 48          PRECISION-   1KM
    LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
    UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
    PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
        DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
    RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
    STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
    MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
    MAP NAME- MIDAS                TYPE- 7.5 MIN
    1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
    PRIMARY NAME- COLORADO GRANDE
    COMMOD/MOD-  GOLD                                    SILVER
    SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
      U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  120
 62 NAME- DIXIE GOLD                               REFERENCE NUMBER- 0320070643
    STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1751M:100M
    LATITUDE-   N 41 14 19          PRECISION-   1KM
    LONGITUDE- W 116 47 32  REFERENCE POINT- ORE BODY
    UTM:  ZONE 11N  NORTHING 4565094  EASTING 517411
    PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
        DESCRIPTION     SECTION- 21  SECTION SUBDIVISION-
    RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
    STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
    MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
    MAP NAME- MIDAS                TYPE- 7.5 MIN
    1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
    PRIMARY NAME- DIXIE GOLD
    COMMOD/MOD-  GOLD                                    SILVER
                 COPPER                                  LEAD
                 ZINC
    SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
      U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.

  121
 62 NAME- GABBEART                                 REFERENCE NUMBER- 0320070644
    STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
    LATITUDE-   N 41 13 48          PRECISION-   1KM
    LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
    UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
    PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
        DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
    RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
    STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
    MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
    MAP NAME- MIDAS                TYPE- 7.5 MIN
    1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
    PRIMARY NAME- GABBEART
    COMMOD/MOD-  GOLD                                    SILVER
    SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
      U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 73.
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FIGURE 3-2
(Explanation Continued)

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  122
62 NAME- GOLD AND SILVER CIRCLE                    REFERENCE NUMBER- 0320070645
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT            MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD AND SILVER CIRCLE
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 73.

  123
62 NAME- GOLD CIRCLE-CROWN                         REFERENCE NUMBER- 0320070646
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT            MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CIRCLE-CROWN
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 73.

  124
62 NAME- GOLD CIRCLE GROUP                         REFERENCE NUMBER- 0320070647
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT            MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CIRCLE GROUP
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 73.

  125
62 NAME- GOLD CIRCLE QUEEN                         REFERENCE NUMBER- 0320070648
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT            MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CIRCLE QUEEN
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.
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FIGURE 3-2
(Explanation Continued)

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126
62 NAME- GOLD CLOUD                              REFERENCE NUMBER- 0320070649
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 69D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CLOUD
   COMMOD/MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

127
62 NAME- GOLD CLOUD PLACER                       REFERENCE NUMBER- 0320070650
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 69D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CLOUD PLACER
   COMMOD/MOD-  GOLD
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

128
62 NAME- GOLDEN CHARIOT PLACER                   REFERENCE NUMBER- 0320070651
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 69D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLDEN CHARIOT PLACER
   COMMOD/MOD-  GOLD
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

129
62 NAME- GOLDEN CIRCLE                           REFERENCE NUMBER- 0320070652
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 69D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- SURFACE
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLDEN CIRCLE
   COMMOD/MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.
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FIGURE 3-2
(Explanation Continued)

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  130
62 NAME- GRAND AND GOLDEN SAPHIRE                    REFERENCE NUMBER- 0320070653
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GRAND AND GOLDEN SAPHIRE
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

  131
62 NAME-  GRANT MILLSITE                             REFERENCE NUMBER- 0320070654
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GRANT MILLSITE
   OTHER NAMES-  CLEANUP
   COMMOD MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

  132
62 NAME- HARDSCRABBLE                                REFERENCE NUMBER- 0320070655
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1753M:100M
   LATITUDE-   N 41 13 43         PRECISION-   1KM
   LONGITUDE- W 116 47 12  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4563915  EASTING 517880
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 28  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- HARDSCRABBLE
   COMMOD MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

  133
62 NAME- HOMESTAKE                                   REFERENCE NUMBER- 0320070656
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                              DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- HOMESTAKE
   COMMOD MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.
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FIGURE 3-2
(Explanation Continued)

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134
62 NAME- JACKSON MINE                          REFERENCE NUMBER- 0320070196
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1750M:500M
   LATITUDE-   N 41 14 12          PRECISION-  100M
   LONGITUDE- W 116 47 16  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4564818  EASTING 517785
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- SESESW
   RIVER BASIN- 68D   ROCK CREEK                 DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- JACKSON MINE
   OTHER NAMES-  GRANT-JACKSON
   COMMOD MOD-  GOLD                                        SILVER
   NEV BUR MIN BULL 12, 1931, PP.16-18, PL.1
   NEV BUR MIN BULL 54, 1957, P.70.

135
62 NAME- JUDGE                                 REFERENCE NUMBER- 0320070657
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- JUDGE
   COMMOD MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 74.

136
62 NAME- KANSAS                                REFERENCE NUMBER- 0320070658
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- KANSAS
   COMMOD MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEE. OPEN-FILE REPORT 1976-56. 1976, P. 74.

137
62 NAME- LAST CHANCE                           REFERENCE NUMBER- 0320070659
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- LAST CHANCE
   COMMOD MOD-  GOLD                                        SILVER
          COPPER                                            LEAD
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 74.
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FIGURE 3-2
(Explanation Continued)

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  138
62 NAME- LUCKY BOY                              REFERENCE NUMBER- 0320070661
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48       PRECISION-
   LONGITUDE- W 116 46 18  REFERENCE POINT-
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- GRD                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- LUCKY BOY
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA,
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

  139
62 NAME- MARION                                 REFERENCE NUMBER- 0320070662
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48       PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- GRD                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- MARION
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA,
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 74.

  140
62 NAME- MIDAS MINE                             REFERENCE NUMBER- 0320070203
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1817M:500M
   LATITUDE-   N 41 14 27       PRECISION-  100M
   LONGITUDE- W 116 47 22  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4565301  EASTING 517644
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- C NESW
   RIVER BASIN- GRD   ROCK CREEK                 DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- MIDAS MINE
   OTHER NAMES-  RECO NO. 2 CLAIM
   COMMOD/MOD-  GOLD
   NEV BUR OF MINES BULL. 81, 1973, P. 45.
   NEV BUR OF MINES, BULL. 54, 1957, P. 71.
   NEV BUR OF MINES, BULL. 12, 1931, PP. 16 - 18, PL. 1
   PART OF GOLD CIRCLE GROUP

  141
62 NAME- MISCELLANEOUS                          REFERENCE NUMBER- 0320070672
   STATE- NEVADA                  COUNTY- ELKO                  ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48       PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- GRD                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.           YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS             TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- MISCELLANEOUS
   OTHER NAMES-  CLEANUP
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA,
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56, 1976, P. 76.
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FIGURE 3-2
(Explanation Continued)

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142
62 NAME- MOLLY LEE                                  REFERENCE NUMBER- 0320070664
   STATE- NEVADA                      COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                                DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- MOLLY LEE
   COMMOD/MOD-  GOLD                                          SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56. 1976, P. 75.

143
62 NAME- NEVADA GOLD                                REFERENCE NUMBER- 0320070665
   STATE- NEVADA                      COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                                DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- NEVADA GOLD
   COMMOD MOD-  GOLD                                          SILVER
                LEAD                                          ZINC
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56. 1976, P. 75.

144
62 NAME- QUEEN                                      REFERENCE NUMBER- 0320070667
   STATE- NEVADA                      COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                                DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- QUEEN
   COMMOD MOD-  GOLD                                          SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56. 1976, P. 75.

145
62 NAME- QUEEN PLACER                               REFERENCE NUMBER- 0320070668
   STATE- NEVADA                      COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48          PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                                DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS                TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- QUEEN PLACER
   COMMOD/MOD-  GOLD                                          SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY, OPEN-FILE REPORT 1976-56. 1976, P. 75.
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FIGURE 3-2
(Explanation Continued)

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  146
62 NAME- RAND AND MASSEY                          REFERENCE NUMBER- 0320070669
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- RAND AND MASSEY
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  147
62 NAME- RELO                                     REFERENCE NUMBER- 0320070670
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- RELO
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  148
62 NAME- REGALIA                                  REFERENCE NUMBER- 0320070671
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- REGALIA
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  149
62 NAME- SAN JUAN                                 REFERENCE NUMBER- 0320070675
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- SAN JUAN
   COMMOD/MOD-  GOLD                                    SILVER
                LEAD                                    COPPER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELK COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.
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FIGURE 3-2
(Explanation Continued)

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  150
62 NAME- SLEEPING BEAUTY                          REFERENCE NUMBER- 0320070676
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1753M:100M
   LATITUDE-   N 41 13 43         PRECISION-   1KM
   LONGITUDE- W 116 47 12  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4563915  EASTING 517880
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 29  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- SLEEPING BEAUTY
   COMMOD MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  151
62 NAME- ST PAUL - BANNER LODE                    REFERENCE NUMBER- 0320070199
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1768M:500M
   LATITUDE-   N 41 14 17         PRECISION-  500M
   LONGITUDE- W 116 46 56  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4564913  EASTING 518250
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- SE
   RIVER BASIN- 68D   ROCK CREEK                DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- MINERAL LOC
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- ST PAUL - BANNER LODE
   OTHER NAMES-  BANNER
   COMMOD MOD-  GOLD                                        SILVER
   NEV. BUR. OF MINES BULL. 54, 1957, P. 71.
   NEV. BUR. OF MINES BULL. 12, 1931, PL. 1

  152
62 NAME- VIDDETTE                                 REFERENCE NUMBER- 0320070678
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- VIDDETTE
   COMMOD MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  153
62 NAME- WESTON                                   REFERENCE NUMBER- 0320070679
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48         PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 68D                              DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- WESTON
   OTHER NAMES-  DICK WESTON
   COMMOD MOD-  GOLD                                        SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 76.
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FIGURE 3-2
(Explanation Continued)

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  154
62 NAME- WICKS AND GEBHARDT                    REFERENCE NUMBER- 0320070680
   STATE- NEVADA                  COUNTY- ELKO                    ELEV:PREC- 1707M:100M
   LATITUDE-   N 41 13 48       PRECISION-   1KM
   LONGITUDE- W 116 46 18  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4564102  EASTING 519136
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
      DESCRIPTION     SECTION- 27  SECTION SUBDIVISION-
   RIVER BASIN- 6RD                          DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- WICKS AND GEBHARDT
   COMMOD/MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 76.

  164
69 NAME- BEX MINE                              REFERENCE NUMBER- 0320070197
   STATE- NEVADA                  COUNTY- ELKO                    ELEV:PREC- 1829M:500M
   LATITUDE-   N 41 14 49       PRECISION-  100M
   LONGITUDE- W 116 46 39  REFERENCE POINT- TRENCH
   UTM:  ZONE 11N  NORTHING 4565980  EASTING 518178
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
      DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- SENWNE
   RIVER BASIN- 6RD   ROCK CREEK             DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- SURFACE
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- BEX MINE
   COMMOD/MOD-  GOLD
   NEV. BUR. OF MINES BULL. 54, 1957, P.70
   NEV. BUR. OF MINES BULL. 12, 1931, P.19, PL.1
   USGS BULL. 408, 1910, P. 54

  165
69 NAME- ELKO PRINCE MINE                      REFERENCE NUMBER- 0320070194
   STATE- NEVADA                  COUNTY- ELKO                    ELEV:PREC- 1829M:500M
   LATITUDE-   N 41 15 20       PRECISION-   5KM
   LONGITUDE- W 116 46 50  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4566947  EASTING 518395
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
      DESCRIPTION     SECTION- 16  SECTION SUBDIVISION-
   RIVER BASIN- 6RD   ROCK CREEK             DOMAIN- UNKNOWN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MCDERMITT          TYPE- 1:250K
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- ELKO PRINCE MINE
   COMMOD/MOD-  GOLD                                    SILVER
   NEV BUR OF MINES BULL. 54, 1957, P.69-70.
   NEV BUR MIN BULL. 12, 1931, P.18, PL.1.
   USGS BULL. 408, 1915, P.57.

  166
69 NAME- GOLD CROWN LODE                       REFERENCE NUMBER- 0320070198
   STATE- NEVADA                  COUNTY- ELKO                    ELEV:PREC- 1817M:500M
   LATITUDE-   N 41 14 43       PRECISION-  500M
   LONGITUDE- W 116 47 12  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4565734  EASTING 517876
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
      DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- N2
   RIVER BASIN- 6RD   ROCK CREEK             DOMAIN- PRIVATE
   STATUS- PAST PRODUCER  OPERATION TYPE- SURF-UNDERG
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CROWN LODE
   COMMOD/MOD-  GOLD
   NEV. BUR. OF MINES BULL. 54, 1957, P.70-71.
   NEV. BUR. OF MINES BULL 12, 1931, P.19, PL.1.
   USGS BULL 408, 1910, P.54.
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FIGURE 3-2
(Explanation Continued)

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  167
69 NAME- JUNE BELL MINE                          REFERENCE NUMBER- 0320070195
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 2137M:500M
   LATITUDE-   N 41 15 35          PRECISION-  500M
   LONGITUDE- W 116 47 35  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4567307  EASTING 517336
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 16  SECTION SUBDIVISION-
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MCDERMITT          TYPE- 1:250K
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- JUNE BELL MINE
   COMMOD MOD-  GOLD                                        SILVER
   NEV BUR OF MIN BULL 54, 1957, P.70.
   NEV BUR MIN BULL 12, 1931, P.19, PL.1.

  168
69 NAME- LINK MINE                               REFERENCE NUMBER- 0320070514
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1780M:500M
   LATITUDE-   N 41 14 30          PRECISION-  100M
   LONGITUDE- W 116 47 02  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4565304  EASTING 518109
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION- E2NWSE
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- PRIVATE
   STATUS  PAST PRODUCER  OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- LINK MINE
   OTHER NAMES-  MISSING LINK
   COMMOD MOD-  SILVER          OXIDE                       GOLD
   NEV BUR MIN BULL 12, 1931, P.18, PL.1.
   MIDAS, NEV. 7.5 MIN USGS TOPO.1965

  169
69 NAME- LITTLE JEWEL MINE                       REFERENCE NUMBER- 0320070223
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1951M:500M
   LATITUDE-   N 41 15 13          PRECISION-  100M
   LONGITUDE- W 116 47 43  REFERENCE POINT- MAIN ENT
   UTM:  ZONE 11N  NORTHING 4566718  EASTING 517152
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 17  SECTION SUBDIVISION- SESE
   RIVER BASIN- 68D   ROCK CREEK                  DOMAIN- UNKNOWN
   STATUS- UNKNOWN         OPERATION TYPE- UNDERGROUND
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- OREGON CANYON      TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- LITTLE JEWEL MINE
   COMMOD MOD-
   USGS OREGON CANYON 7.5 MINUTE TOPOGRAPHIC MAP, 1977.

  170
69 NAME- RIPSAW                                  REFERENCE NUMBER- 0320070673
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1780M:100M
   LATITUDE-   N 41 14 41          PRECISION-  1KM
   LONGITUDE- W 116 47 29  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4565712  EASTING 517479
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION-
   RIVER BASIN- 68D                           DOMAIN- BLM ADMIN
   STATUS- PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-       MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT           MINERAL PROPERTY FILE-
   PRIMARY NAME- RIPSAW
   COMMOD MOD-  GOLD                                        SILVER
                COPPER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.
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FIGURE 3-2
(Explanation Concluded)

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  171
69 NAME- ST. PAUL                                REFERENCE NUMBER- 0320070674
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 1780M:100M
   LATITUDE-   N 41 14 41          PRECISION-   1KM
   LONGITUDE- W 116 47 29  REFERENCE POINT- ORE BODY
   UTM:  ZONE 11N  NORTHING 4565712  EASTING 517479
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 21  SECTION SUBDIVISION-
   RIVER BASIN- 68D                          DOMAIN- BLM ADMIN
   STATUS  PAST PRODUCER  OPERATION TYPE- UNKNOWN
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MIDAS              TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- ST. PAUL
   COMMOD MOD-  GOLD                                    SILVER
   SMITH, ROSCOE M. MINERAL RESOURCES OF ELKO COUNTY, NEVADA.
     U.S. GEOL. SURVEY. OPEN-FILE REPORT 1976-56. 1976, P. 75.

  174
72 NAME-  OLD CIRCLE CLAIM                       REFERENCE NUMBER- 0320070204
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 2012M:500M
   LATITUDE-   N 41 16 05          PRECISION-  500M
   LONGITUDE- W 116 48 22  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4568319  EASTING 516240
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 046 E
       DESCRIPTION     SECTION- 03  SECTION SUBDIVISION- SESW
   RIVER BASIN- 68D   ROCK CREEK                 DOMAIN- UNKNOWN
   STATUS  UNKNOWN          OPERATION TYPE- MINERAL LOC
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- OREGON CANYON      TYPE- 7.5 MIN
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- GOLD CIRCLE CLAIM
   COMMOD MOD-  GOLD
   GRANGER, BELL, SIMMONS AND LEE (1957) P 71
   ALT 1200 FT NW OF MIDAS CLAIM
   USGS BULL. 403, 1910, P.57.

  176
74 NAME- PARADISE                                REFERENCE NUMBER- 0320070319
   STATE- NEVADA                    COUNTY- ELKO                    ELEV:PREC- 2012M:500M
   LATITUDE-   N 41 16 35          PRECISION-  500M
   LONGITUDE- W 116 51 30  REFERENCE POINT- APPROX
   UTM:  ZONE 11N  NORTHING 4569215  EASTING 511865
   PUBLIC LAND SURVEY  TOWNSHIP- 039 N   RANGE- 045 E
       DESCRIPTION     SECTION- 11  SECTION SUBDIVISION- E2N2
   RIVER BASIN- 68E   LITTLE HUMBOLT RIVER       DOMAIN- UNKNOWN
   STATUS  UNKNOWN          OPERATION TYPE- MINERAL LOC
   MESA ID NO.            YEAR FIELD CHECKED-      MAP REPOSITORY-  FOC
   MAP NAME- MCDERMITT          TYPE- 1:250K
   1:250,000 MAP NAME- MCDERMITT          MINERAL PROPERTY FILE-
   PRIMARY NAME- PARADISE
   COMMOD MOD-  TUNGSTEN        WO3 CONTENT
   SCHILLING (1963)
   SCHILLING (1964) NEV BUR MINES BULL 65
   WILLDEN (1961) PT 1
   ROBERTS (1940) USGS BULL 922-E P 115-133
   LINDGREN (1915) USGS BULL 601, PL 1
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